

REMARKS/ARGUMENTS

Claims 1-12, 15-21, and 24-36 are pending.

Claims 1-12, 15-21, and 27-28 have been amended.

Claims 13-14 and 22-23 have been cancelled.

Claims 31-36 have been added.

Support for the amendments is found in the claims and specification, as originally filed. Specifically, support for the claimed range of MgO + CaO + SrO + BaO of claims 1-2, 27-28, 31, and 33-34 can be found in the original claim 1 (greater than 12%); page 5, lines 11-13, of the specification (describing MgO + CaO + SrO + BaO being greater than 12%, preferably greater than or equal to 15%); and Examples 1-4 (describing MgO + CaO + SrO + BaO being 18% and 17%). *See also, In re Wertheim*, 541 F.2d 257 (CCPA 1976) (the parent application claimed 25-60% and had examples at 35% and 50%, and the application at issue claimed 35-50%); *Eiselstein v. Frank*, 52 F.3d 1035, 1039 (Fed. Cir. 1995) (the specification of the parent application claimed 45-55% nickel and the application at issue claimed about 45% to about 50%); and *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570 (Fed. Cir. 1985) (the parent application disclosed examples with a protein content of 25% and 27%, and the application at issue claimed a protein content greater than 25%). Thus, the present specification provides support for the now claimed MgO + CaO + SrO + BaO ranges.

The rejection of claims 13-14 under 35 U.S.C. 112, second paragraph, is not applicable to the claims presented herein as claims 13-14 are cancelled.

Claims 1-23 are rejected under 102(b) or 103(a) over Sugiura, US 6,054,401. The rejection is traversed because Sugiura does not describe or suggest a glass composition having

(A) $\text{MgO} + \text{CaO} + \text{SrO} + \text{BaO}$ (1) less than or equal to 18% and (2) greater than 12 %
(15%) and less than or equal to 18%;

(B) a combination that satisfies the claimed glass characteristics; and

(C) the specific viscosity $\log \eta = 3.5$ at a temperature at least equal to 1160°C and
 $\log \eta = 2$ at a temperature not exceeding 1560°C.

Claims 1-9, 12, 15-18, and 21 are directed to a glass composition for an emissive
display, comprising the constituents below, in the following proportions by weight :

SiO_2	67.5 - 75 %
Al_2O_3	0.5 - 1 %
ZrO_2	2 - 7 %
Na_2O	2 - 9 %
K_2O	4 - 11 %
MgO	0 - 5 %
CaO	5 - 10 %
SrO	5 - 12 %
BaO	0 - 3 %
B_2O_3	0 - 3 %
Li_2O	0 - 2 %

with the relationships :

$\text{Na}_2\text{O} + \text{K}_2\text{O} > 10 \%$

$\text{MgO} + \text{CaO} + \text{SrO} + \text{BaO}$ is less than or equal to 18%,

and said composition having a thermal expansion coefficient between 80 and $90 \times 10^{-7}/^\circ\text{C}$.

Claims 31 and 33-34 further limit $\text{MgO} + \text{CaO} + \text{SrO} + \text{BaO}$ to be greater than 12 %
and less than or equal to 18%.

Claims 10-11, 19-20, and 27-28 further limit the glass to have viscosity of $\log \eta = 3.5$ or $\log \eta = 2$.

Claims 24-26, 29-30, 32, and 35-36 are directed to an emissive display comprising the claimed glass composition.

Sigiura discloses a fireproof sheet glass composition comprising constituents described in col. 2, wherein $\text{MgO} + \text{CaO} + \text{SrO} + \text{BaO}$ is from 20 to 27%. Sigiura does not describe the claimed amount of $\text{MgO} + \text{CaO} + \text{SrO} + \text{BaO}$.

Sigiura concerns a problem of improving fire resistance of soda-lime glass sheets and is silent with regard to yellowing of glass substrates for emissive displays.

The claimed glass substrate is manufactured for an emissive display. The technical problem of the present invention intends to solve is to improve the yellowing resistance of a glass substrate for emissive displays (page 1). As described at page 1 of the specification, the substrates made of the silica-soda-lime glass, which bear heat-treated silver-based layers, have a tendency to develop a yellow coloration that contributes to the degradation of the quality of the image. The claimed glass shows reduced yellow color which is obtained by using a combination of a high content of SiO_2 (higher than 67%), a very low Al_2O_3 content (0.5-1%) and low ZrO_2 content (2-7%), wherein $\text{MgO} + \text{CaO} + \text{SrO} + \text{BaO}$ is greater than 12 or is less than or equal to 18% (page 5 and Examples 1-4). If $\text{MgO} + \text{CaO} + \text{SrO} + \text{BaO}$ is higher, the ability of the glass to devitrify increases and may become incompatible with the conditions for manufacturing the glass by floating on a bath of molten metal.

Although Sigiura generally discloses content of SiO_2 being 56-68% (col. 2), all example have significantly lower content of silica. Table 1 shows that the glass of Examples 1-8 comprises 57-65% of silica, which is outside of the claimed range. Comparative Example 9 comprising 72.1% of silica (i.e., within the claimed range) does not produce glass having satisfactory fireproof characteristics (col. 8).

Although Sigiura generally discloses content of Al_2O_3 being 0.2-5%, all example have significantly higher content of Al_2O_3 . Table 1 shows that Examples 1-6 comprise 4.8-1.2 of Al_2O_3 , which is outside of the claimed range. Examples 7-8 comprising 0.3 and 0.6% of Al_2O_3 (i.e., within the claimed range) but the content of silica is much lower than that claimed.

Thus, Sigiura's Examples 1-9 do not have a single combination that satisfies the claimed characteristics because Sigiura has no concern about the yellowing reduction for an emissive display, but only intends to improve fire resistance. One would not have been motivated by Sigiura to select a glass composition having a high content of SiO_2 , a very low Al_2O_3 content, a low ZnO_2 content and the claimed amount of $\text{MgO} + \text{CaO} + \text{SrO} + \text{BaO}$ to arrive at yellowing resistant glass substrates for an emissive display since Sigiura deals with modifying the fireproof sheet glass to improve fire resistance (col. 1).

Further, Sigiura does not teach or suggest a glass composition for an emissive display having the specific viscosity of claims 10-11, 19-20, and 27-28. This specification discloses that viscosity is important for manufacturing of stable glass substrates (pages 4-5). Sigiura describes the fireproof glass having viscosity 7.65 (page 7, lines 26-29) (claimed viscosity is 2 and 3.5).

Lastly, Sigiura does not teach or suggest an emissive display comprising a glass composition of claims 1, 27-28, 31, and 33-34.

Applicants request that the rejection be withdrawn.

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A Notice of Allowance for all pending claims is requested.

Respectfully submitted,

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